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EXAMINER	
SHAH, PARAS D	

ART UNIT	PAPER NUMBER
2626	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/722,285	SHRIVASTAV, RAHUL
	Examiner	Art Unit
	PARAS SHAH	2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _02/22/2008_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,3-11,13-21 and 23-30_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1, 3-11, 13-21, and 23-30_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to the RCE filed on 02/22/2008. Claims, 1, 3-11, 13-21, and 23-30 are pending and have been examined. The Applicant's arguments and amendments have been considered, but they do not place this case in condition for Allowance.

Change of Examiner

2. It should be noted that the Examiner of record for this Application has changed from Joel Stoffregen to Paras Shah.

Response to Arguments

3. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection (see below).

Response to Amendment

4. This communication is response to applicant's amendment filed 03/21/2008. The applicant amended claims 1, 3-11, 13-21, and 23-30.

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In regards to claims 21, 23-30, the limitation of "computer readable storage" is not supported by the Specification. The closest support to the

computer readable storage was found on page 12, 2nd full paragraph of the Applicant's Specification.

Claim Rejections - 35 USC § 103

6. **Claims 1, 11, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over BAYYA et al. (US 6,446,038) in view of TREURNIET et al. (Patent No.: US 7,164,771).

7. Regarding **claim 1**, BAYYA teaches a method of diagnosing voices comprising: processing a received voice signal associated with a speaker's voice ("receives an input corresponding to the corrupted speech signal", BAYYA, column 2, lines 49-50) (e.g. The speech signal corresponds to a speaker's voice from whom it was uttered);

identifying one or more attributes of said speaker's voice by analyzing said processed voice signal ("generates corresponding signals 18 representing the amount of distortion in the corrupted speech signal for each of the plurality of distortion measure utilized", BAYYA, column 3, lines 21-24 and col. 3-4, equations 1-6, power spectra, LPC, cepstral values are calculated in order to calculate distortion measure) (e.g. The speech signal corresponds to a speaker's voice from whom it was uttered, where attributes of the speech signal are identified);

comparing said identified attributes in said speaker's voice with one or more baseline vocal quality attributes derived from at least one baseline voice signal (see BAYYA, columns 3-4, equations 1-6), said derived attributes associated with at least one baseline measure of vocal quality of a human speaker ("the speech reference

vectors 16 are obtained from a large number of clean speech samples", BAYYA, column 2, lines 57-58) (e.g. The reference and the distorted speech are compared. The baseline vocal quality is derived from reference signal, which is based on various speech references (see col. 2, lines 57-60). Vocal quality evaluated in terms of distortion (see col. 5, lines 28-34)); and

based upon said comparing step, determining at least one objective measure of vocal quality of said speaker's voice ("predicting the subjective scores corresponding to the quality of speech based on the objective measurements", BAYYA, column 4, lines 58-59), said at least one objective measure defining a degree of vocal quality of said speaker's voice ("value between 1 and 5", BAYYA, column 5, line 6) relative to said at least one baseline measure of vocal quality of a human speaker ("the speech reference vectors 16 are obtained from a large number of clean speech samples", BAYYA, column 2, lines 57-58 and see col. 2, lines) (e.g. The comparisons are done between the speech signal and reference speech vectors of clean speech. Hence vocal quality is measured between the received signal and reference speech. It is obvious that the reference speech comes from human speakers (see col. 2, lines 57-60, speech is recorded in clean environment)).

However, BAYYA does not disclose using an auditory model. In the same field of field of quality measurement, TREURNIET teaches processing a received voice signal associated with a speaker using an auditory model ("peripheral ear processor 22 that processes signals according to a peripheral ear model", TREURNIET, column 4, lines 24-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the peripheral ear model of TREURNIET to process the input received by BAYYA in order to better estimate how the signal will be perceived (see TREURNIET, column 2, lines 19-22).

8. Regarding **claim 11**, BAYYA teaches a system for diagnosing voices comprising:

means for processing a received voice signal associated with a speaker's voice ("receives an input corresponding to the corrupted speech signal", BAYYA, column 2, lines 49-50) (e.g. The speech signal corresponds to a speaker's voice from whom it was uttered);

means for identifying one or more attributes of said speaker's voice by analyzing said processed voice signal ("generates corresponding signals 18 representing the amount of distortion in the corrupted speech signal for each of the plurality of distortion measure utilized", BAYYA, column 3, lines 21-24 and col. 3-4, equations 1-6, power spectra, LPC, cepstral values are calculated in order to calculate distortion measure) (e.g. The speech signal corresponds to a speaker's voice from whom it was uttered, where attributes of the speech signal are identified);;

means for comparing said identified attributes in said speaker's voice with one or more baseline vocal quality attributes derived from at least one baseline voice signal (see BAYYA, columns 3-4, equations 1-6), said derived attributes associated with at least one baseline measure of vocal quality of a human speaker ("the speech reference vectors 16 are obtained from a large number of clean speech samples", BAYYA, column 2, lines 57-58) (e.g. The reference and the distorted speech are compared. The baseline vocal quality is derived from reference signal, which is based on various speech references (see col. 2, lines 57-60). Vocal quality evaluated in terms of distortion (see col. 5, lines 28-34)); and

means for determining at least one objective measure of vocal quality of said speaker's voice ("predicting the subjective scores corresponding to the quality of speech based on the objective measurements", BAYYA, column 4, lines 58-59), said at least one objective measure defining a degree of vocal quality of said speaker's voice ("value between 1 and 5", BAYYA, column 5, line 6) relative to said at least one baseline measure of vocal quality of a human speaker ("the speech reference vectors 16 are obtained from a large number of clean speech samples", BAYYA, column 2, lines 57-58 and see col. 2, lines) (e.g. The comparisons are done between the speech signal and reference speech vectors of clean speech. Hence vocal quality is measured between the received signal and reference speech. It is obvious that the reference speech comes from human speakers (see col. 2, lines 57-60, speech is recorded in clean environment)).

However, BAYYA does not disclose using an auditory model. In the same field of field of quality measurement, TREURNIET teaches processing a received voice signal associated with a speaker using an auditory model ("peripheral ear processor 22 that processes signals according to a peripheral ear model", TREURNIET, column 4, lines 24-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the peripheral ear model of TREURNIET to process the input received by BAYYA in order to better estimate how the signal will be perceived (see TREURNIET, column 2, lines 19-22).

9. Regarding **claim 21**, BAYYA teaches a machine readable storage, having stored thereon a computer program having a plurality of code sections executable by a machine for causing the machine to perform the steps of:

processing a received voice signal associated with a speaker’s voice (“receives an input corresponding to the corrupted speech signal”, BAYYA, column 2, lines 49-50) (e.g. The speech signal corresponds to a speaker's voice from whom it was uttered);

identifying one or more attributes of said speaker’s voice by analyzing said processed voice signal (“generates corresponding signals 18 representing the amount of distortion in the corrupted speech signal for each of the plurality of distortion measure utilized”, BAYYA, column 3, lines 21-24 and col. 3-4, equations 1-6, power spectra, LPC, cepstral values are calculated in order to calculate distortion measure) (e.g. The speech signal corresponds to a speaker's voice from whom it was uttered, where attributes of the speech signal are identified);;

comparing said identified attributes in said speaker's voice with one or more baseline vocal quality attributes derived from at least one baseline voice signal (see BAYYA, columns 3-4, equations 1-6), said derived attributes associated with at least one baseline measure of vocal quality of a human speaker (“the speech reference vectors 16 are obtained from a large number of clean speech samples”, BAYYA, column 2, lines 57-58) (e.g. The reference and the distorted speech are compared. The baseline vocal quality is derived from reference signal, which is based on various speech references (see col. 2, lines 57-60). Vocal quality evaluated in terms of distortion (see col. 5, lines 28-34)) (e.g. The comparisons are done between the speech

signal and reference speech vectors of clean speech. Hence vocal quality is measured between the received signal and reference speech. It is obvious that the reference speech comes from human speakers (see col. 2, lines 57-60, speech is recorded in clean environment)); and

based upon said comparing step, determining at least one objective measure of vocal quality of said speaker's voice ("predicting the subjective scores corresponding to the quality of speech based on the objective measurements", BAYYA, column 4, lines 58-59), said at least one objective measure defining a degree of vocal quality of said speaker's voice ("value between 1 and 5", BAYYA, column 5, line 6) relative to said at least one baseline measure of vocal quality of a human speaker ("the speech reference vectors 16 are obtained from a large number of clean speech samples", BAYYA, column 2, lines 57-58 and see col. 2, lines).

However, BAYYA does not disclose using an auditory model. In the same field of field of quality measurement, TREURNIET teaches processing a received voice signal associated with a speaker using an auditory model ("peripheral ear processor 22 that processes signals according to a peripheral ear model", TREURNIET, column 4, lines 24-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the peripheral ear model of TREURNIET to process the input received by BAYYA in order to better estimate how the signal will be perceived (see TREURNIET, column 2, lines 19-22).

10. **Claims 3-5, 13-15, and 23-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over BAYYA et al. (US 6,446,038) in view of TREURNIET et al. (Patent No.: US 7,164,771), and in further view of DEAL et al. ("Some Waveform and Spectral Features of Vowel Roughness").

11. Regarding **claim 3**, the combination of BAYYA and TREURNIET teaches all the claimed limitation of claim 1.

However, BAYYA and TREURNIET do not disclose that the measure of voice quality is at least one of roughness and hoarseness.

In the same field of speech quality measurement, DEAL discloses a method of measuring vocal roughness. DEAL teaches a measure of voice quality that is at least one of roughness and hoarseness ("provide a quantitative acoustic index predictive of perceived vowel roughness", DEAL, p. 251, 4th paragraph, where vowel roughness is associated with voice roughness and hoarseness, see DEAL, p. 251, 2nd paragraph).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the measurement method of DEAL as one of the distortion measures of BAYYA in order to increase the versatility of the quality measurement by determining vowel quality contained in a speech signal (see DEAL, page 250, last three lines of 1st paragraph).

12. Regarding **claim 4**, DEAL further teaches that the voice quality attributes of the test voice signal include changes in pitch over time and changes in loudness over time ("acoustic measures of period and amplitude variation", DEAL, p. 251, 4th paragraph).

13. Regarding **claim 5**, DEAL further teaches that the voice quality attribute of the test voice signal includes a measure of partial loudness ("acoustic measures of... spectral noise level", DEAL, p. 251, 4th paragraph).

14. Regarding **claim 13**, the combination of BAYYA and TREURNIET teaches all the claimed limitation of claim 11.

However, BAYYA and TREURNIET do not disclose that the measure of voice quality is at least one of roughness and hoarseness.

In the same field of speech quality measurement, DEAL discloses a method of measuring vocal roughness. DEAL teaches a measure of voice quality that is at least one of roughness and hoarseness ("provide a quantitative acoustic index predictive of perceived vowel roughness", DEAL, p. 251, 4th paragraph, where vowel roughness is associated with voice roughness and hoarseness, see DEAL, p. 251, 2nd paragraph).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the measurement method of DEAL as one of the distortion measures of BAYYA in order to increase the versatility of the quality measurement by determining vowel quality contained in a speech signal (see DEAL, page 250, last three lines of 1st paragraph).

15. Regarding **claim 14**, DEAL further teaches that the voice quality attributes of the test voice signal include changes in pitch over time and changes in loudness over time ("acoustic measures of period and amplitude variation", DEAL, p. 251, 4th paragraph).

16. Regarding **claim 15**, DEAL further teaches that the voice quality attribute of the test voice signal includes a measure of partial loudness ("acoustic measures of... spectral noise level", DEAL, p. 251, 4th paragraph).

17. Regarding **claim 23**, the combination of BAYYA and TREURNIET teaches all the claimed limitation of claim 21.

However, BAYYA and TREURNIET do not disclose that the measure of voice quality is at least one of roughness and hoarseness.

In the same field of speech quality measurement, DEAL discloses a method of measuring vocal roughness. DEAL teaches a measure of voice quality that is at least one of roughness and hoarseness ("provide a quantitative acoustic index predictive of perceived vowel roughness", DEAL, p. 251, 4th paragraph, where vowel roughness is associated with voice roughness and hoarseness, see p. 251, 2nd paragraph).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the measurement method of DEAL as one of the distortion measures of BAYYA in order to increase the versatility of the quality measurement by determining vowel quality contained in a speech signal (see DEAL, page 250, last three lines of 1st paragraph).

18. Regarding **claim 24**, DEAL further teaches that the voice quality attributes of the test voice signal include changes in pitch over time and changes in loudness over time ("acoustic measures of period and amplitude variation", DEAL, p. 251, 4th paragraph).

19. Regarding **claim 25**, DEAL further teaches that the voice quality attribute of the test voice signal includes a measure of partial loudness ("acoustic measures of… spectral noise level", DEAL, p. 251, 4th paragraph).

20. **Claims 6-10, 16-20, and 26-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over BAYYA et al. (US 6,446,038) in view of TREURNIET et al. (Patent No.: US 7,164,771), and in further view of HILLENBRAND et al. ("Acoustic Correlates of Breathy Vocal Quality").

21. Regarding **claim 6**, the combination of BAYYA and TREURNIET teaches all of the claimed limitation of claim 1.

However, BAYYA and TREURNIET do not disclose that the measure of voice quality is breathiness.

In the same field of speech quality measurement, HILLENBRAND discloses a method of measuring vocal breathiness. HILLENBRAND teaches a measure of voice quality that is breathiness ("acoustic measures in predicting breathiness ratings", HILLENBRAND, *abstract*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the measurement method of HILLENBRAND as one of the distortion measures of BAYYA in order to increase the versatility of the quality measurement and to include quality measurements that compare different

speech signals with and without pathological conditions (see HILLENBRAND, page 311, Abstract)

22. Regarding **claim 7**, HILLENBRAND further teaches that the voice quality attribute of the test voice signal includes a measure of low frequency periodic energy ("aspiration noise is inherently weak in the low frequencies", HILLENBRAND, p. 312, 2nd paragraph, meaning the low frequencies contain a strong periodic component).

23. Regarding **claim 8**, HILLENBRAND further teaches that the voice quality attribute of the test voice signal includes a measure of high frequency aperiodic energy ("periodic component of the voice source is inherently weak in the mid and high frequencies", HILLENBRAND, p. 312, 2nd paragraph, meaning the mid and high frequencies contain a strong aperiodic component).

24. Regarding **claim 9**, HILLENBRAND further teaches that the voice quality attribute of the test voice signal includes a measure of partial loudness of a periodic signal portion of the test voice signal ("measure of the… average energy below 4 kHz", HILLENBRAND, p. 315, 4th paragraph, where the low frequencies contain a periodic signal, see HILLENBRAND, p. 312, 2nd paragraph).

25. Regarding **claim 10**, HILLENBRAND further teaches that the voice quality attributes of the test voice signal include a measure of noise in the test voice signal and

a measure of partial loudness of the test voice signal ("measure of the average spectral energy at or above 4 kHz to the average energy below 4 kHz", HILLENBRAND, p. 315, 4th paragraph, where the high frequencies contain noise and the low frequencies contain a periodic signal, see HILLENBRAND, p. 312, 2nd paragraph).

26. Regarding **claim 16**, the combination of BAYYA and TREURNIET teaches all of the claimed limitation of claim 11.

However, BAYYA and TREURNIET do not disclose that the measure of voice quality is breathiness.

In the same field of speech quality measurement, HILLENBRAND discloses a method of measuring vocal breathiness. HILLENBRAND teaches a measure of voice quality that is breathiness ("acoustic measures in predicting breathiness ratings", HILLENBRAND, *abstract*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the measurement method of HILLENBRAND as one of the distortion measures of BAYYA in order to increase the versatility of the quality measurement and to include quality measurements that compare different speech signals with and without pathological conditions (see HILLENBRAND, page 311, Abstract)

27. Regarding **claim 17**, HILLENBRAND further teaches that the voice quality attribute of the test voice signal includes a measure of low frequency periodic energy

("aspiration noise is inherently weak in the low frequencies", HILLENBRAND, p. 312, 2nd paragraph, meaning the low frequencies contain a strong periodic component).

28. Regarding **claim 18**, HILLENBRAND further teaches that the voice quality attribute of the test voice signal includes a measure of high frequency aperiodic energy ("periodic component of the voice source is inherently weak in the mid and high frequencies", HILLENBRAND, p. 312, 2nd paragraph, meaning the mid and high frequencies contain a strong aperiodic component).

29. Regarding **claim 19**, HILLENBRAND further teaches that the voice quality attribute of the test voice signal includes a measure of partial loudness of a periodic signal portion of the test voice signal ("measure of the… average energy below 4 kHz", HILLENBRAND, p. 315, 4th paragraph, where the low frequencies contain a periodic signal, see HILLENBRAND, p. 312, 2nd paragraph).

30. Regarding **claim 20**, HILLENBRAND further teaches that the voice quality attributes of the test voice signal include a measure of noise in the test voice signal and a measure of partial loudness of the test voice signal ("measure of the average spectral energy at or above 4 kHz to the average energy below 4 kHz", HILLENBRAND, p. 315, 4th paragraph, where the high frequencies contain noise and the low frequencies contain a periodic signal, see HILLENBRAND, p. 312, 2nd paragraph).

31. Regarding **claim 26**, the combination of BAYYA and TREURNIET teaches all of the claimed limitation of claim 1.

However, BAYYA and TREURNIET do not disclose that the measure of voice quality is breathiness.

In the same field of speech quality measurement, HILLENBRAND discloses a method of measuring vocal breathiness. HILLENBRAND teaches a measure of voice quality that is breathiness ("acoustic measures in predicting breathiness ratings", HILLENBRAND, *abstract*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the measurement method of HILLENBRAND as one of the distortion measures of BAYYA in order to increase the versatility of the quality measurement and to include quality measurements that compare different speech signals with and without pathological conditions (see HILLENBRAND, page 311, Abstract).

32. Regarding **claim 27**, HILLENBRAND further teaches that the voice quality attribute of the test voice signal includes a measure of low frequency periodic energy ("aspiration noise is inherently weak in the low frequencies", HILLENBRAND, p. 312, 2nd paragraph, meaning the low frequencies contain a strong periodic component).

5. Regarding **claim 28**, HILLENBRAND further teaches that the voice quality attribute of the test voice signal includes a measure of high frequency aperiodic energy

("periodic component of the voice source is inherently weak in the mid and high frequencies", HILLENBRAND, p. 312, 2nd paragraph, meaning the mid and high frequencies contain a strong aperiodic component).

33. Regarding **claim 29**, HILLENBRAND further teaches that the voice quality attribute of the test voice signal includes a measure of partial loudness of a periodic signal portion of the test voice signal ("measure of the... average energy below 4 kHz", HILLENBRAND, p. 315, 4th paragraph, where the low frequencies contain a periodic signal, see HILLENBRAND, p. 312, 2nd paragraph).

34. Regarding **claim 30**, HILLENBRAND further teaches that the voice quality attributes of the test voice signal include a measure of noise in the test voice signal and a measure of partial loudness of the test voice signal ("measure of the average spectral energy at or above 4 kHz to the average energy below 4 kHz", HILLENBRAND, p. 315, 4th paragraph, where the high frequencies contain noise and the low frequencies contain a periodic signal, see HILLENBRAND, p. 312, 2nd paragraph).

Conclusion

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ghitza *et al.* (US 6,609,092) is cited to disclose estimation of audio signal quality from distortion measures. Juric *et al.* (US 6,804,651) is cited to disclose determination of voice quality from an audio signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARAS SHAH whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:00a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571)272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paras Shah/
Examiner, Art Unit 2626

04/17/2008

/Patrick N. Edouard/
Supervisory Patent Examiner, Art Unit 2626